APPENDIX D

AIRBORNE ELEMENTS OF THE TACTICAL AIR CONTROL SYSTEM

Airborne operations require extensive coordination between the US Air Force, US Army, and often other services. The airborne element of the tactical air control system, consisting of the AWACS and the ABCCC, augment and even replace the ground-based elements of TACS when response time is critical.

D-1. AIRBORNE WARNING AND CONTROL SYSTEM

The AWACS (designated by the Air Force as the E-3 radar) is a modified Boeing 707 that houses a radar subsystem and vast communications equipment. It is under OPCON of the TACC. The AWACS radar system can compensate for the major limitations of ground-based radar systems such as their inability to detect low-flying aircraft due to line-of-sight restrictions. Other limitations of ground-based radar systems include their susceptibility to ECM and their vulnerability to attack.

a. **Communications.** To complement its flexible receiving ability, the AWACS can communicate with a wide range of systems. It has extensive HF, VHF, and UHF radios that can be used to communicate with ground controllers, airborne forces, and ground forces.

b. **Missions.** The three major missions the E-3 radar can support are tactical, air defense, and humanitarian.

(1) *Tactical.* In a conventional warfare environment, AWACS serves as an airspace control element. From this vantage point behind the front lines, the tactical commander monitors the allied and enemy forces. He makes the decisions needed to conduct the battle. The E-3's radar flexibility in the tactical environment is one of its major assets.

(2) *Air defense.* The E-3's radar flexibility allows it to support tactical missions, defensive missions, or both at the same time. The aircraft can be used for weapons control or as a surveillance platform. In an air defense role, the E-3 radar provides weapons control and surveillance capabilities. It also provides C^2 for weapons and control for air defense regions during stages of increased alerts.

(3) *Humanitarian.* The E-3 radar can fly into a natural disaster area and can provide an airborne CP to monitor the situation. It can also provide the needed communications and control during large-scale disasters.

D-2. AIRBORNE BATTLEFIELD COMMAND AND CONTROL CENTER

The mission of the ABCCC is to provide a worldwide capability for control of air operations during contingencies; in the absence of or in concert with the ground TACS; and in the forward battle areas beyond the range of ground-based TACS elements. The ABCCC can act as an extension of a TACC combat operation, as an interim TACC combat operation, or as an alternate ASOC. It can also coordinate electronic combat, serve as a joint rescue coordination center, and provide tactical threat warning.

a. **Airborne Battle Staff Composition and Duties.** The ABCCC battle staff is divided into four functional areas: command, operations, intelligence, and communications.

b. **Communications Capability.** The ABCCC was designed to support the air-to-ground war. As such, each capsule has 20 radios for the battle staff to use. They include four VHF/AM, four VHF/FM, four HF, and eight UHF. Six of the eight UHF radios are equipped with HAVE QUICK (antijam). This mix of radios allows the ABCCC to work with all elements of the TACS and the forces employed.

c. **Missions.** The ABCCC has five missions:

(1) *Airborne ASOC.* The ABCCC can fulfill a limited ASOC role or can ensure proper communications between the ASOC and TACPs or between fighters and FACs. ABCCC is often the only agency that can fulfill the ASOC role at the onset of hostilities.

(2) *TACC combat operations.* In the role of combat operations center, the ABCCC maintains ground alert and airborne asset status. The real time compilation of intelligence and operations information allows for flexibility in performing current operations. In the first stages of conflict, ABCCC allows appropriate TAF operations to be conducted in the absence of the traditional ground-based TACS.

(3) *Electronic combat.* With its unique communications ability, the ABCCC can maintain radio contact for coordination with all electronic combat assets (ESM and ECM) available to the tactical commander. The combination of intelligence and operations information within ABCCC allows the situational awareness required to perform the function. Electronic combat coordination is a growing role for the ABCCC.

(4) *Joint rescue coordination center.* As a JRCC, the ABCCC can track aircraft; maintain the status of SAR forces; coordinate with other services' SAR forces; scramble assets; and marshal, coordinate, and control SARs. These SAR operations can be conducted in peacetime or war.

(5) *Crisis management.* The ABCCC can provide on-the-scene C^2 during crisis situations. Tasks are much the same as for TACC/ASOC missions but are accomplished on a time-compressed schedule. (See TAC Regulation 55-130 for more information about employment of ABCCC.)